

### Amendments to the Claims

1 1. (currently amended) A method for estimating a channel impulse response  
2 in an ultra wide bandwidth (UWB) system comprising the steps of:  
3 transmitting and receiving in parallel via a channel a plurality of  
4 training sequences, each training sequence being different, each training  
5 sequence being modulated at a chip rate, and each training sequence  
6 consisting of ultra wide bandwidth radio pulses;

7 sampling each training sequence in parallel with multiple correlators  
8 at sampling rate substantially slower than the chip rate to obtain a plurality  
9 of samples for each training sequence, in which the samples span a time  
10 interval corresponding to an impulse response of the channel; and

11 estimating the impulse response of the channel over a the time interval  
12 of corresponding to the impulse response of the channel from the plurality of  
13 sample samples of the plurality of training sequences at a resolution  
14 substantially equal to the chip rate.

1 2. (original) The method of claim 1, in which each training sequence is  
2 passed through  $n$  correlators to generate  $n$  samples for each correlator.

1 3. (original) The method of claim 1, in which the sampling rate is at least ten  
2 times slower than the chip rate.

1 4. (original) The method of claim 1, in which the sampling rate is equal to a  
2 symbol rate.

- 1 5. (currently amended) The method of claim 1 further comprising:  
2       estimating equalizer coefficients from ~~the estimate of the channel~~  
3 ~~impulse response~~ an equalizer training sequence consisting of radio pulses.
- 1 6. (currently amended) The method of claim 1 further comprising:  
2       estimating weights for the corresponding correlators to acquire most  
3 of the available energy of a data signal received via the estimated channel, in  
4 which the data signal consists of the ultra wide bandwidth radio pulses.
- 1 7. (currently amended) The method of claim 1, in which a first subset of the  
2 samples are used for a rough estimate, and a second subset of the samples  
3 are used for an accurate estimate based on the rough estimate.
- 1 8. (original) The method of claim 1, in which the estimate is based on a  
2 previous estimate of the channel impulse response.
- 1 9. (currently amended) The method of claim 1, in which each correlator  
2 generates  $k$  sample samples, where  $k$  is greater than one.
- 1 10 (new) The method of claim 1, in which the chip rate is chip rate on the  
2 order of 10 GHz.
- 1 11. (new) The method of claim 7, in which the second subset of samples are  
2 obtained from training sequences received after obtaining the first subset of  
3 samples.